

ACADEMY OF SCIENCES OF THE USSR
TRANSACTIONS OF THE KAMCHATKA VOLCANOLOGICAL STATION. V. 3

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THE VOLCANOES OF THE KARYMSKY GROUP

Summary

The volcanoes of the Karymsky group are situated between the Zhupanovsky group of volcanoes and the group of the volcanoes of the Bolshoy (Big) and the Maly (Little) Semyachik, on a plateau-like range, about 600 m high, composed of a volcanic tuff-breccia and stretched in a north-north-eastern direction.

Situated on this range are the active volcanoes the Karymsky and the Maly Semyachik and a number of previously unknown extinct volcanoes, surrounding the first volcano, namely the Academy of Sciences, Beliankin's, Krainy, Odnoboky, Razlaty, Sukhoy, Soboliny volcanoes; and north-east of the Maly Semyachik, the Berezovy and the Dvoynoy.

The Karymsky volcano is a strato-volcano. Its last eruption occurred in 1934—1935, a lava of a dacitic composition having been poured out. The Karymsky volcano is located in the caldera of subsidence, which cut off a half of the adjoining Dvor volcano. From the latter volcano only a half of the caldera is left; it seems to have been formed as a result of an explosion of the summit of the volcano.

The activity of the Dvor and Karymsky volcanoes and the change of the composition of the lavas in time (Fig. 4) are represented in the following table.

Kind of activity	Composition of material
The Dvor volcano	
Explosive	Andesite-basaltic
Effusive	Andesitic
Explosion	
Explosive	Andesite-basaltic
Effusive	Basaltic
Explosion	
Effusive	Andesitic
Sinking of the southern part of the volcano as a result of the formation of the cal- dera of the Karymsky volcano	
The Karymsky volcano	
Explosive and effusive	Andesite-dacitic and dacitic

The volcano of the Academy of Sciences represents a half-destroyed caldera, engirdling the southern part of the Karymsky lake. The composition of the lavas

varied within the range of andesite-dacite and dacite. In the caldera on the edge of the lake are situated a number of hot (some of them boiling) alkaline-chlorine springs.

Beliankin's volcano (named in honour of Acad. D. S. Beliankin) represents half of a caldera. The second half has been destroyed. The lavas of this volcano are dacitic, but at a certain stage of activity its lava had also a basaltic composition.

The Krainy volcano in its shape approaches the stellate type. It is composed of andesite.

The Odnoboky volcano is andesitic. In its rock frequently occurs cristobalite. This mineral occurs also in the lavas of other volcanoes, as well as in the tuff-breccias of the range.

The Razlaty and the Soboliny volcano are basaltic and andesite-basaltic. The Sukhoy volcano is dacitic.

The lava of the western slope of the Maly Semyachik volcano is basaltic, and that of the northern slope (older lavas) — andesite-basaltic, nearly andesitic. The latter lava belongs possibly not to Maly Semyachik but to the adjacent Berezovy.

In conclusion it should be noted that (1) in general, the change of the composition of the lavas in time proceeds by the way of an increase of their acidity, but in some cases an intermittence in the change is also observed (2). The Karymsky volcano among the active volcanoes of Kamchatka at present erupts the most acid lava of a dacitic composition (3). The Karymsky region is characterized by a considerable development of dacite lavas and a presence of cristobalite in many lavas and the presence of tridymite and partly of cristobalite in stringers of tuff-breccia (4). The development of calderas in this region has been established.